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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

2683
#10-1-0

In re application of

PATEL, CHANDRAKANT B., et al.

Appln. No. 09/078,555

Group Art Unit: 2746

Filed: May 14, 1998

Examiner: C. TRAN

For: RADIO RECEIVER FOR RECEIVING BOTH VSB AND QAM DIGITAL TELEVISION SIGNALS

RESPONSE UNDER 37 C.F.R. § 1.111

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

REMARKS

Claims 23-40 are all the claims pending in the application.

Formal Matters

The Objection to Drawings Under 37 C.F.R. 18.4(g).

The Draftsperson objects to the drawings, specifically Figures 1, 2, 3, 5, and 6, under 37 C.F.R. 18.4(g), as having unacceptable margins. Applicant is concurrently filing a Submission of Corrected Formal Drawings with this response. Applicant requests Examiner to find the drawings in compliance with 37 C.F.R. § 18.4(g) and thus withdraw this objection.

The Continuation-In-Part Rejection

The Examiner objected to the present application being filed as a Divisional Application and requests Applicant to place the present application in the form of a Continuation-In-Part

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Application. Specifically, the Examiner requests the Applicant to place the present application in compliance with the requirements of a Continuation-In-Part Application as required by 35 U.S.C. § 120 and 37 C.F.R. § 1.78.

Applicant respectfully submits that the present application was properly filed under 37 C.F.R. § 1.53(d) as a Divisional Application. During prosecution of the parent application, Serial No. 08/266,753, Applicant submitted an amendment (Paper No. 23 dated December 19, 1997) which requested that claims 23-40 be added to the application. On January 12, 1998, however, the Examiner's Office Action refused to enter the added claims because "the new claims are drawn to an invention different from that which has been prosecuted, as indicated by the claims allowed" (See Paper 24). Upon receipt of January 12, 1998 Office Action, Applicant properly filed a Divisional Application under 37 C.F.R. § 1.53(d). In light of the parent application's history, the present application was properly filed as a Divisional Application and therefore the Applicant respectfully requests the Examiner to withdraw this objection.

The Rejection Under 35 U.S.C. § 112, First Paragraph

Claims 23-40 stand rejected pursuant to 35 U.S.C. § 112, first paragraph as containing new subject matter which was not described in the specification in an enabling manner. Specifically, the Examiner asserts that the claim requirements relating to the method of controlling the operation mode and equalizer in response to the identification of the DC component of the received signal, as added in the specification and claims, is unsupported and raises new matter.

Applicant respectfully traverses this rejection. Independent claim 23 discloses a method for controlling the operating mode of an equalizer. In a first step, a direct current (DC) component of a received signal is identified. In a second step, the identification of the DC component controls the operating mode of the equalizer. Independent claims 26, 30, 34 and 37 each disclose a variation of these two steps claimed in independent claim 23.

Independent claims 23, 26, 30, 34 and 37 are fully supported in the original application. The identification of the DC component of the received signal, identified by the Examiner as unsupported, is fully supported throughout the specification. As disclosed in the specification at page 6 lines 19-30 and page 16 lines 4-19, a pilot detector senses the presence of a pilot carrier accompanying a digital HDTV signal of the VSB type. The pilot carries a DC signal. The detector output indicates whether the received signal is a VSB signal (page 16, line 20) or a QAM signal (page 17, line 12).

At page 1 lines 6-11, the pilot carrier wave is described as a wave of fixed amplitude wherein the amplitude corresponds to a prescribed percentage of modulation. One of ordinary skill in the art would appreciate that the pilot carrier wave, as described above, is equivalent to a direct current offset component. The identification of the DC offset component, therefore, is fully supported by the original specification which terms the DC offset component as a pilot carrier signal.

Furthermore, Figure 1 depicts the pilot carrier presence detector. This detector determines whether the HDTV signal is of the QAM type or VSB type. The detector determines that a signal is of the VSB type when the received signal is accompanied by a DC offset

component or pilot carrier. In light of the present evidence, the identification of the DC component of the received signal is fully disclosed and supported in the original specification.

The Examiner also argues that controlling the operating mode of the equalizer in response to the identification of a DC offset component is not described in the specification in an enabling manner. Again, Applicant respectfully traverses this rejection.

Page 6 lines 19-28 describe how the operating mode of the present invention is controlled by the identification of a DC offset component. Specifically, the specification states:

“a detector is provided for determining whether the final IF signal is a QAM signal or a VSB signal to generate a control signal, which is in a first condition when the final IF signal is a QAM signal and is in a second condition when the final IF signal is a VSB signal. Responsive to the control signal being in its first condition, the radio receiver is automatically switched to operate in a QAM signal reception mode; and responsive to the control signal being in its second condition, the radio receiver is automatically switched to operate in a VSB signal reception mode. This detector is one which senses the presence of a pilot carrier accompanying a digital HDTV signal of VSB type in certain preferred embodiments of the invention.”

Furthermore, Figure 2 shows a DC level from detector 34 controlling the operating mode of the equalizer 36. The equalizer, as described at page 17 lines 25-30 and page 18 lines 1-5, is

“arranged to provide a flat amplitude-versus-frequency characteristic in response to the VSB pilot carrier presence detector indicating the absence of pilot carrier and the VSB training signal selected by the data sync recovery circuitry is wired through the data sync selector without need for a multiplexer.”

In view of the explanation presented above with regard to the § 112, first paragraph rejection, Applicant respectfully requests the Examiner now to withdraw the rejection of independent claims 23, 26, 30, 34, 37 and the claims that depend therefrom.

Prior Art Rejections

The Rejection Under 35 U.S.C. § 102(e)

The Examiner rejected claims 23, 26-40 under 35 U.S.C. § 102(e) as being anticipated by Nielsen. Nielsen discloses a system for controlling the operating mode of an adaptive equalizer and issued on November 4, 1997. Specifically, the Examiner rejected claims 23, 26-40 under 35 U.S.C. § 102(e) in view of the prior 35 U.S.C. § 112 rejection and thus allocated, to the present application, an effective filing date of May 14, 1998.

Applicant respectfully traverses this rejection. In view of the arguments presented to overcome the Examiner's rejection under 35 U.S.C. § 112, first paragraph, Applicant submitted overwhelming evidence showing that the original specification fully supports the claims. Thus, Applicant submits that the present application is entitled to the benefit of the parent application's filing date of June 28, 1994. In conclusion, because the present invention claims the benefit of the June 28, 1994 filing date, Nielsen is inapplicable as a prior art reference because Nielsen's

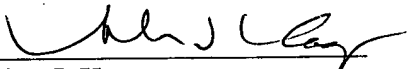
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October 4, 1995 filing date is clearly latter to that of the present application. Therefore, Applicant respectfully requests the Examiner to withdraw the 35 U.S.C. § 102(e) rejection of claims 23, 26-40.

In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,


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